

SIEMENS

UROSKOP D

SP

Planning Guide

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English

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General notes

- With distribution of this revision level, all preceding planning guides, Speed - Infos (PG's) and drafts lose their validity.
- All layouts issued by the Planning Departments must bear a note referring to the installation and delivery conditions of Siemens Medical Engineering Group. The installation and delivery conditions must be submitted with the layouts.
- Unless otherwise specified, all equipment dimensions indicated in the planning guides show a general tolerance conforming to ISO 2768 - V.
- Unless otherwise specified, all structural dimensions indicated in the planning guides show a general tolerance conforming to ISO 4172.
- Unless otherwise specified, all dimensions are indicated in "mm".
- ◆ - The symbol indicates a change (see revision status).
- ⊕ - Orientation points
Points specific to system components to which reference is made when positioning system components to each other or in the room.
The isocenter of a radiographic system is always illustrated as the orientation point.
- Fixpoints
Clearly marked points on system components, installation ceiling, walls or floor on which cable outlets are located.
Illustration in the drawings: circle with letter/number-combination.
The cable lengths establish the maximum fixpoint distances and thus the maximum distances between the individual system components.
- Room height
The room height is the distance measured from the top surface of the floor to the bottom surface of the ceiling structural elements (Unistrut rails) (bottom surface of drop ceiling).

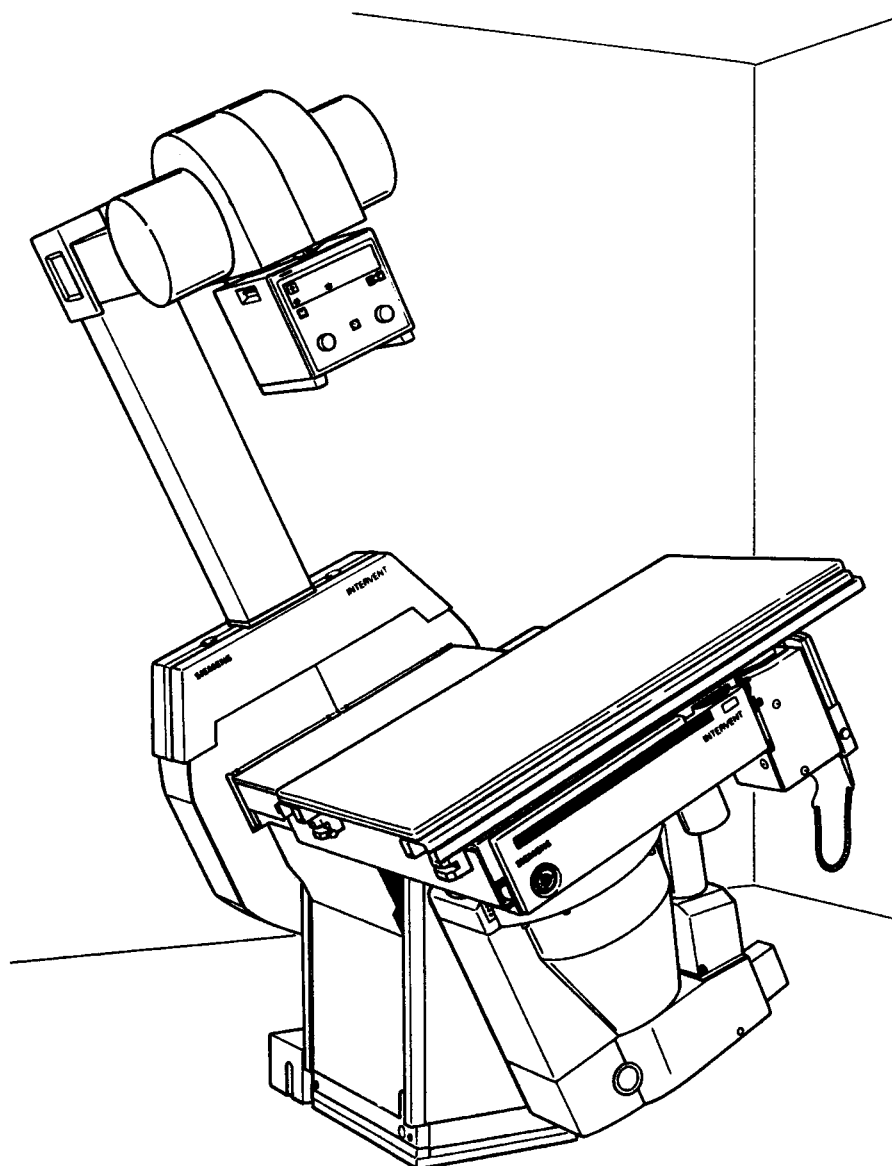
Safety

- ◆ - The provisions of the relevant fire protection regulations must be observed for the premises.
- ◆ - The system has been developed according to EN 60601 - 1.
- Minimum dimensions (e. g. room heights, safety distances) indicated in the planning guides are marked "min."
- Basic resistance to electromagnetic sources of interference.
Result of lightning discharges.
The protection targets of the different lightning protection areas up to the unit connection are also specified in the IEC 1024, DIN 48810, VDE 0675 and in the DEMVT recommendations.

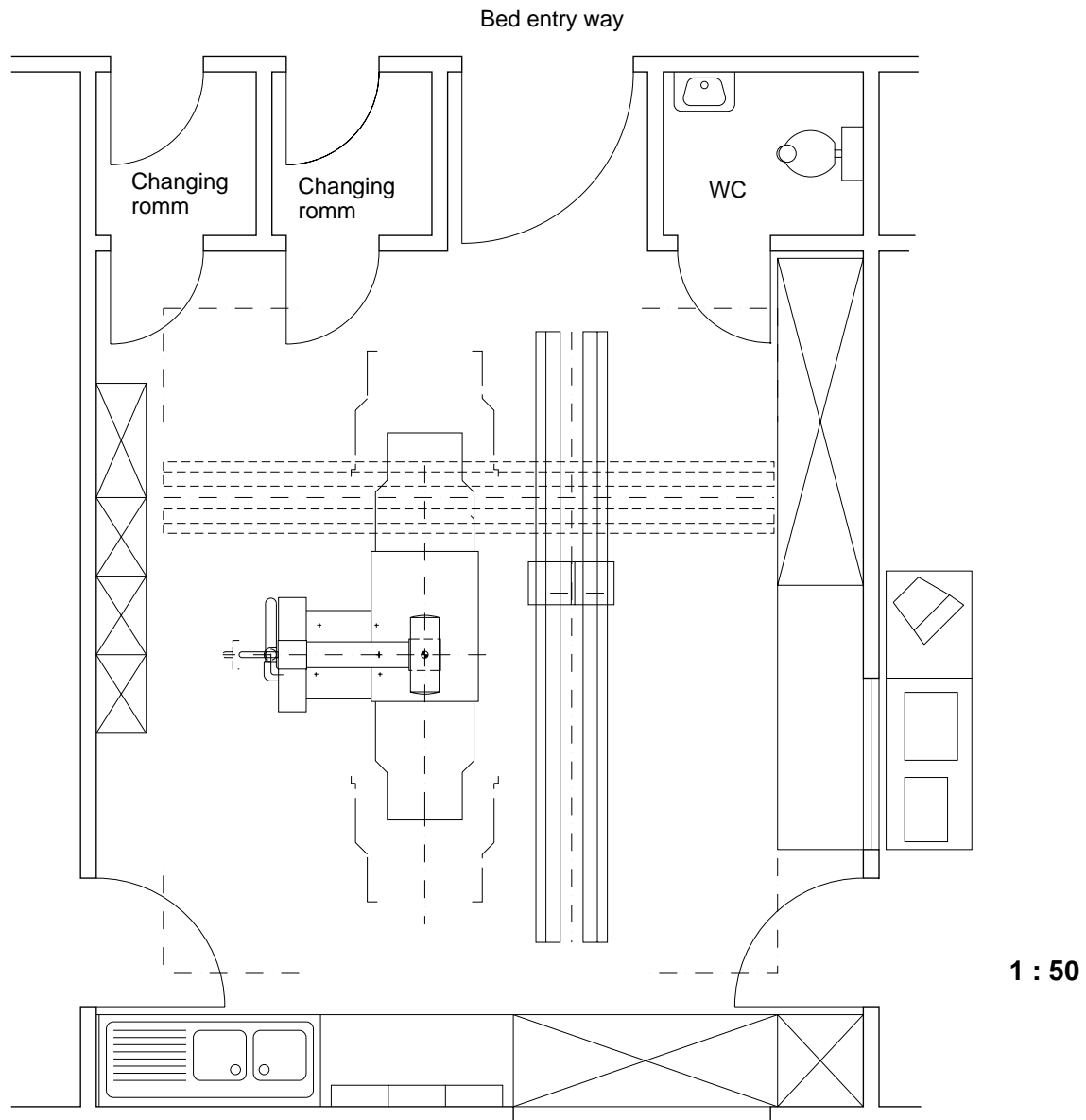
◆ Hotline Tel. (+ 49) (0) 09191/18 - 8080

System configuration

(schematic)

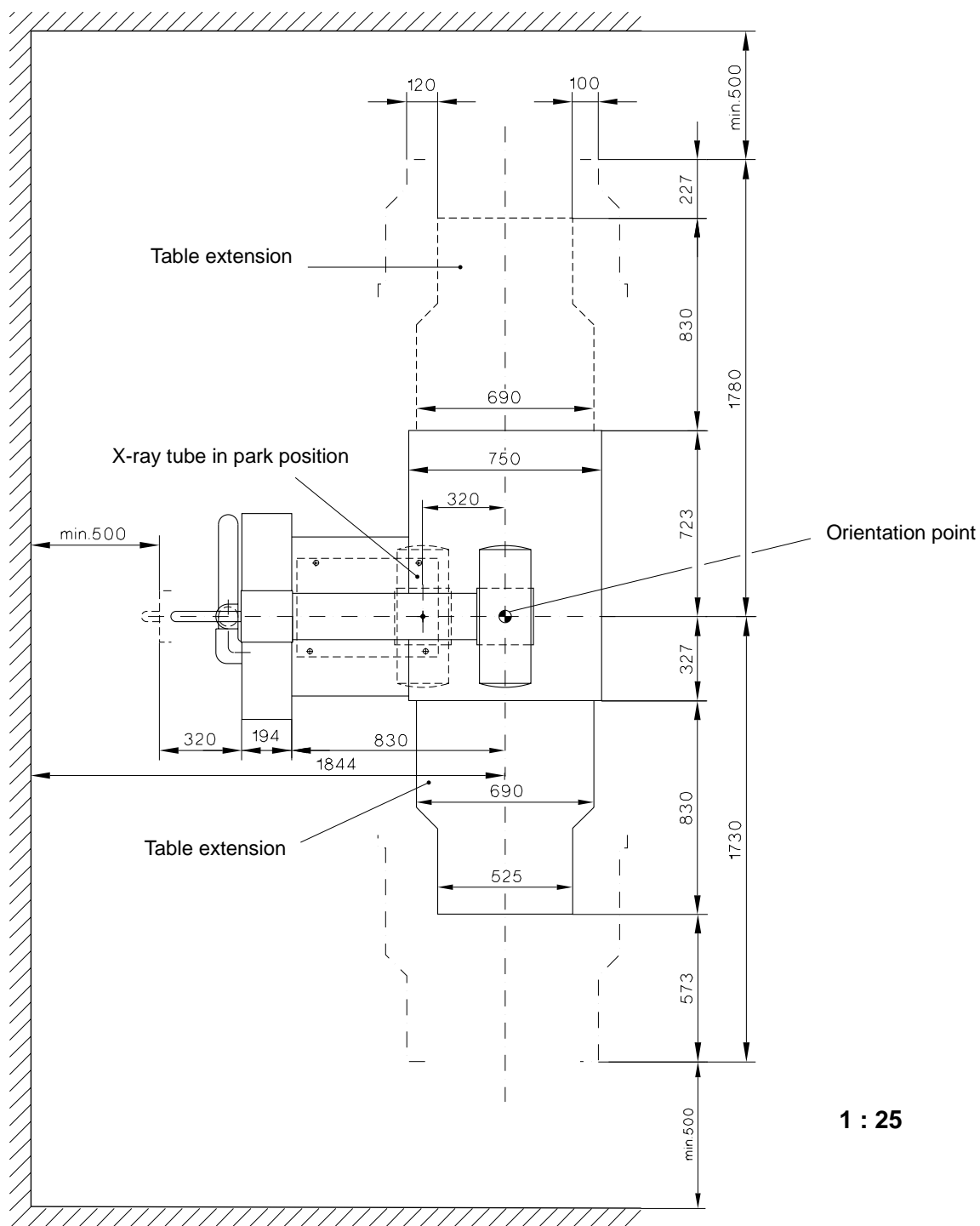


Room planning proposal



Minimum room size:	5.30 m x 4.80 m
Minimum room height:	2.60 m without restriction in movement
	2.30 m with restriction in movement
Minimum distance, unit front panel to wall:	1.30 m

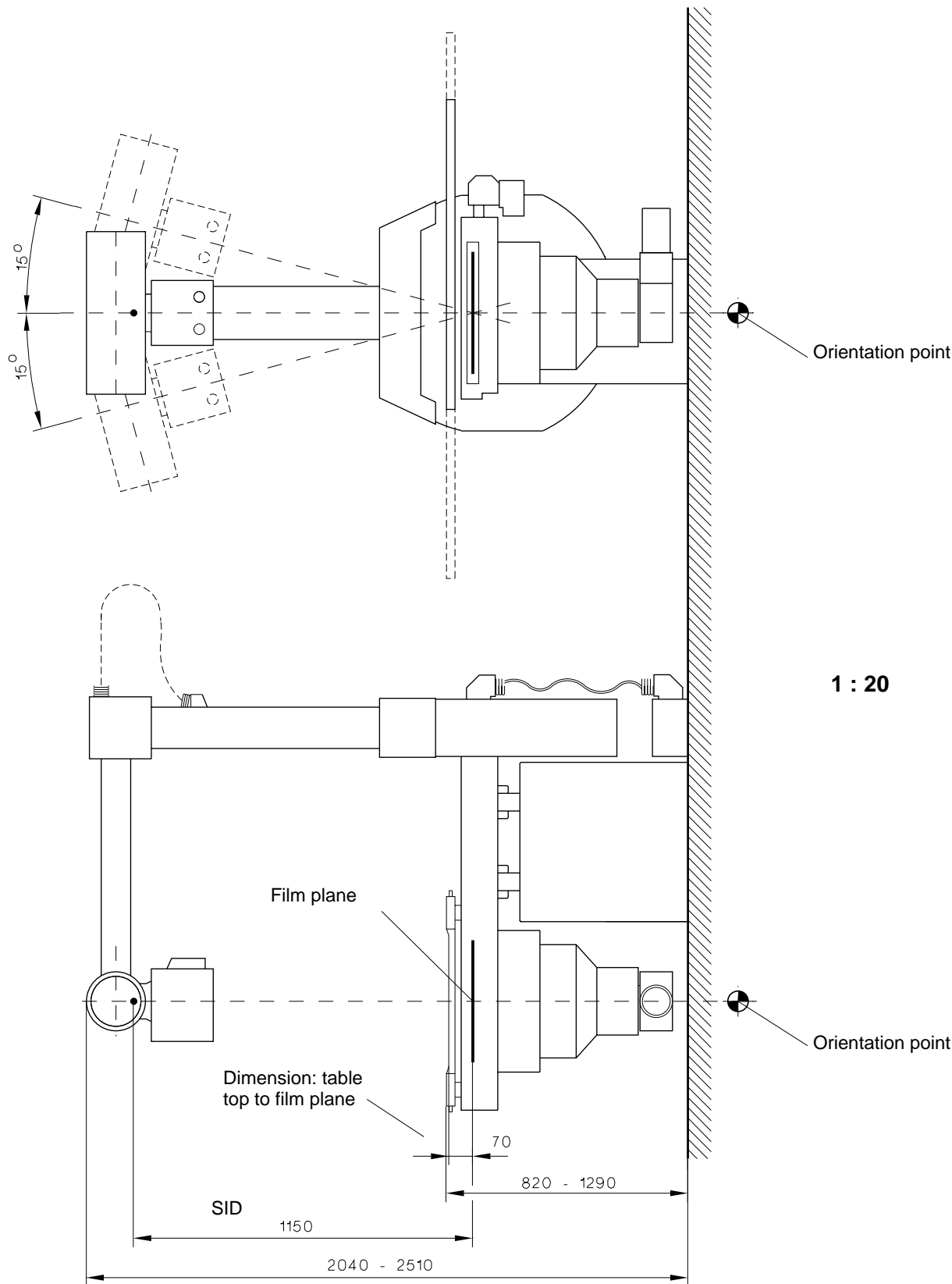
Min. wall distances

**NOTICE**

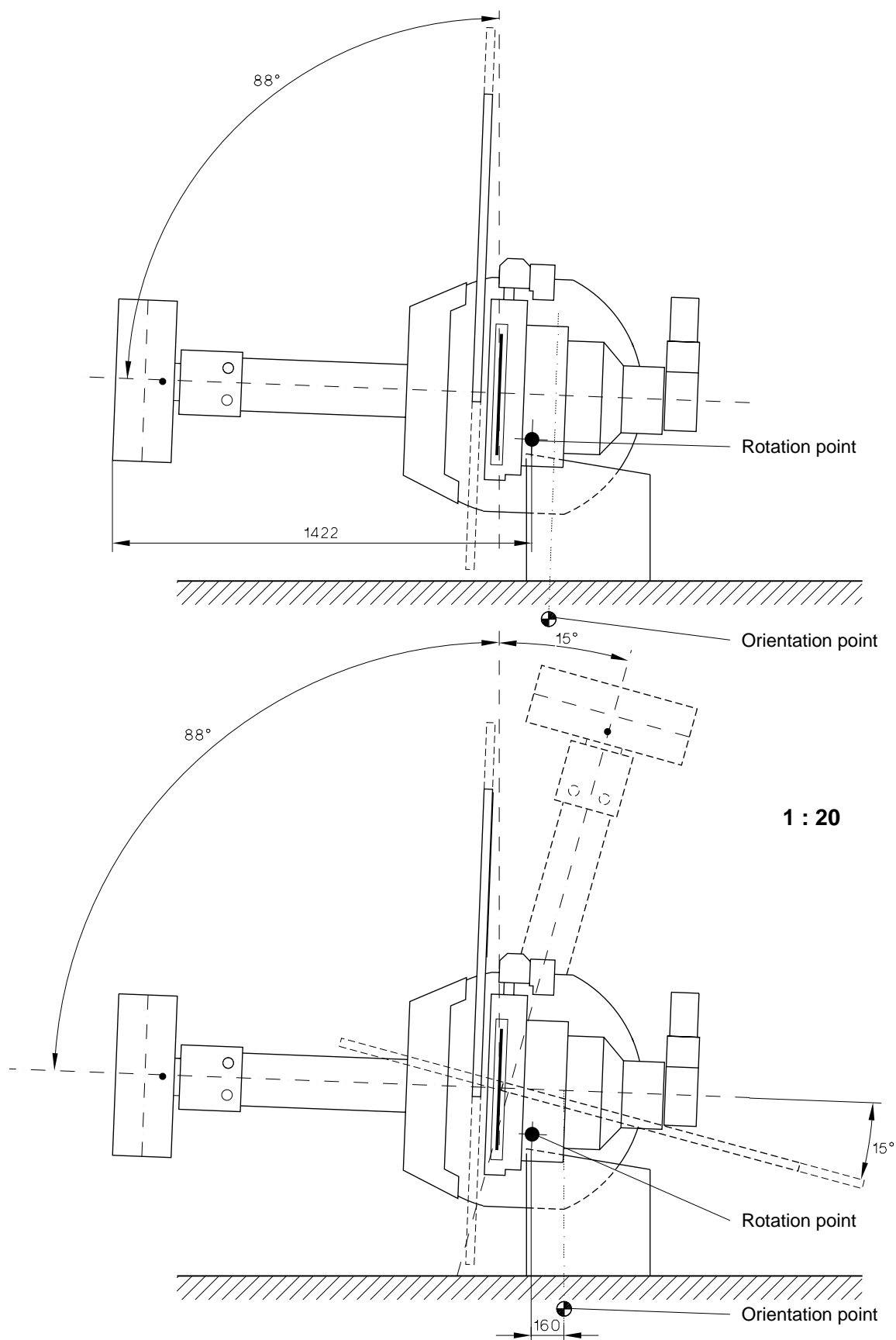
The table extensions can be attached at both table ends, as required.

Following installation of the basic unit, it must be possible to remove the installation transport carriage from the rear.

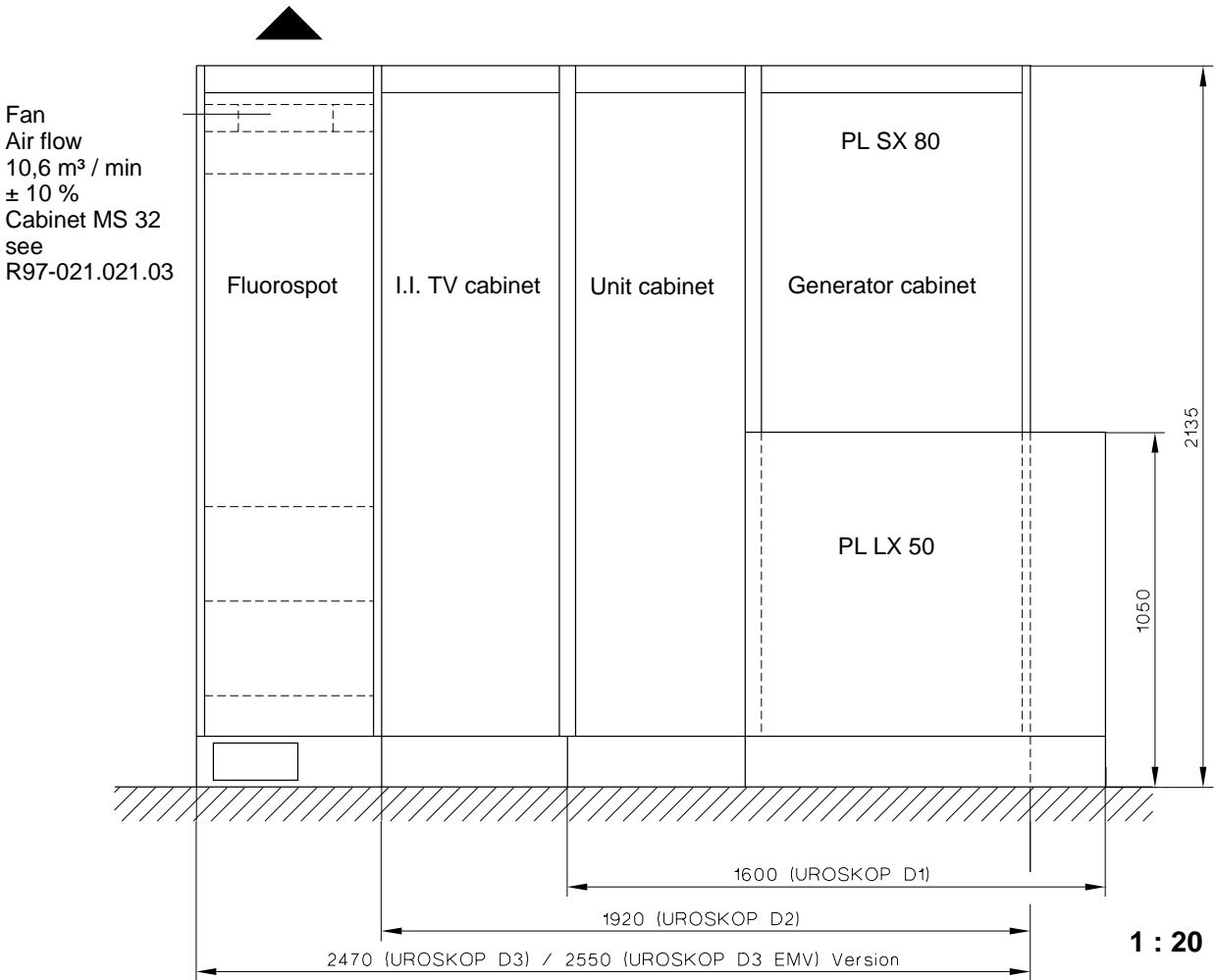
Dimensions: Unit



Dimensions: Unit

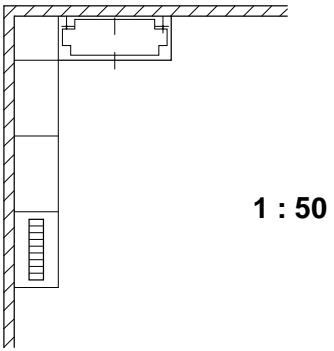
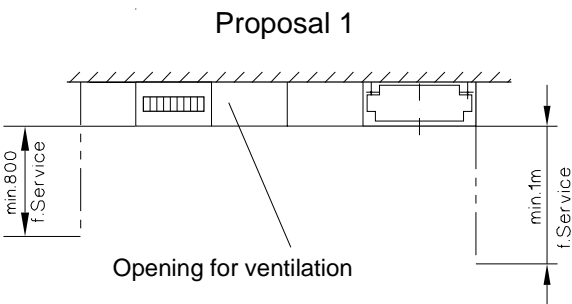


Dimensions: Mounting cabinets



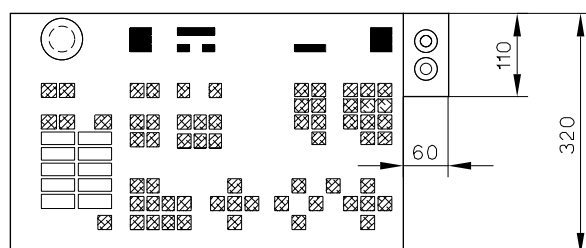
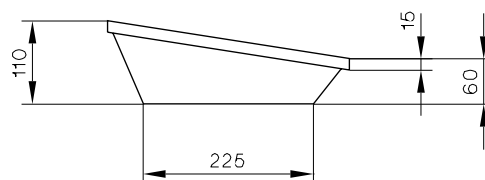
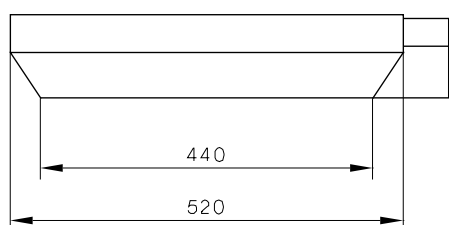
I.I. TV cabinet EMV version: L x W x H = 600 x 430 x 2145

Proposal 2



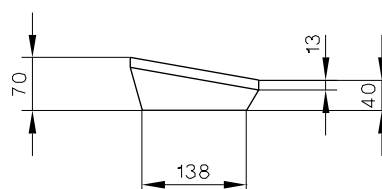
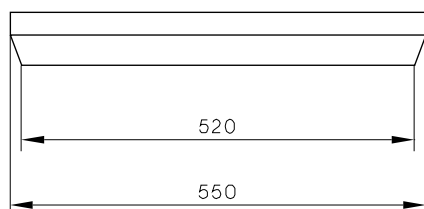
Dimensions: System control

UROSKOP D System control console



Heat dissipation approx. 30 (W)

Memoskop keyboard (for UROSKOP D1 / D2 only)

**1 : 10**

Location of the keyboard should be established with the customer prior to the installation (for MTS-I only).

Dimensions: Table

Option

Total height = 1280 mm

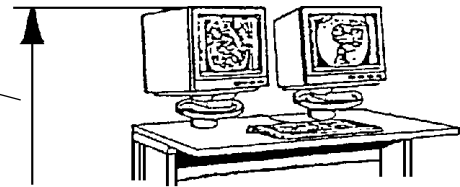
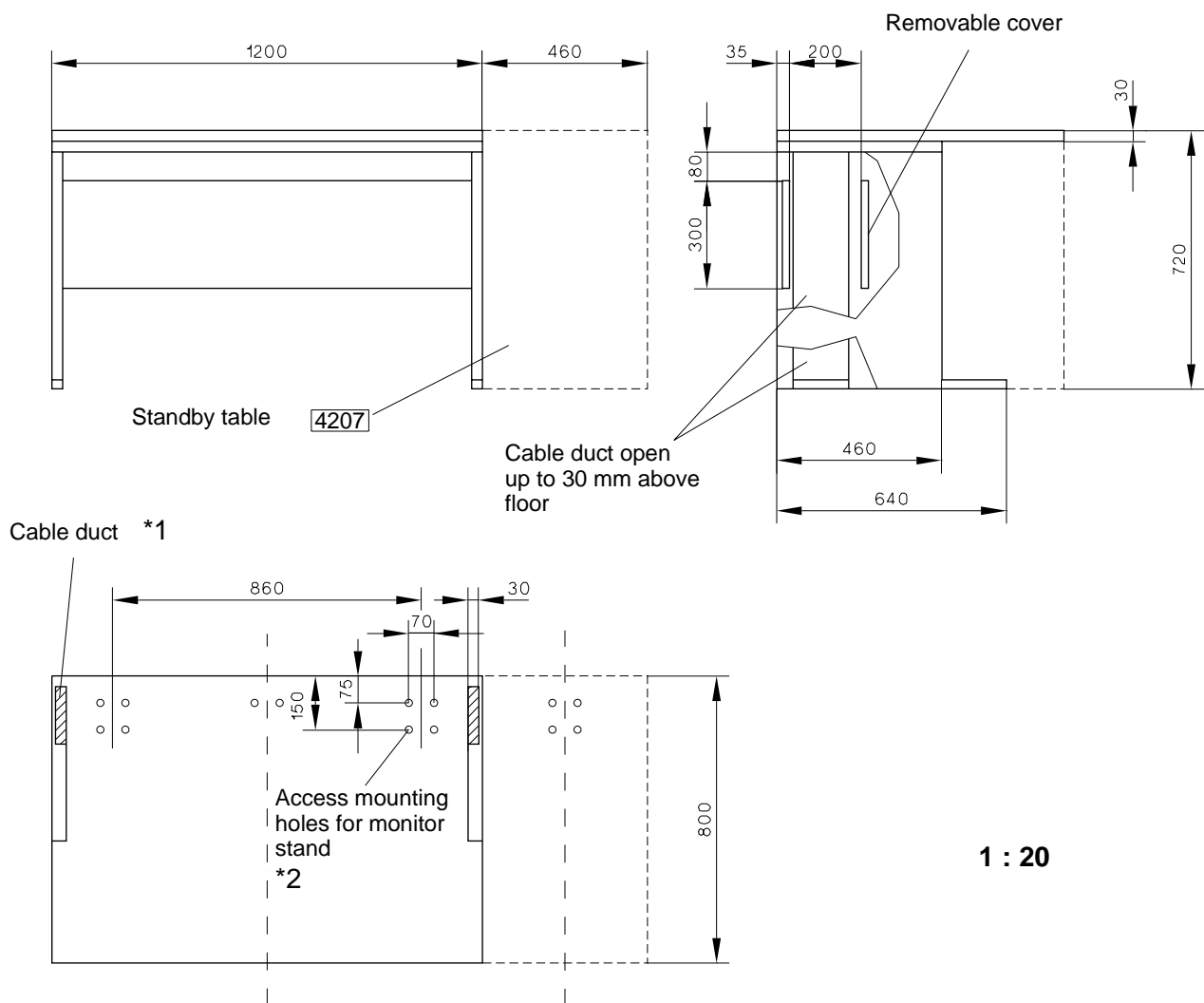


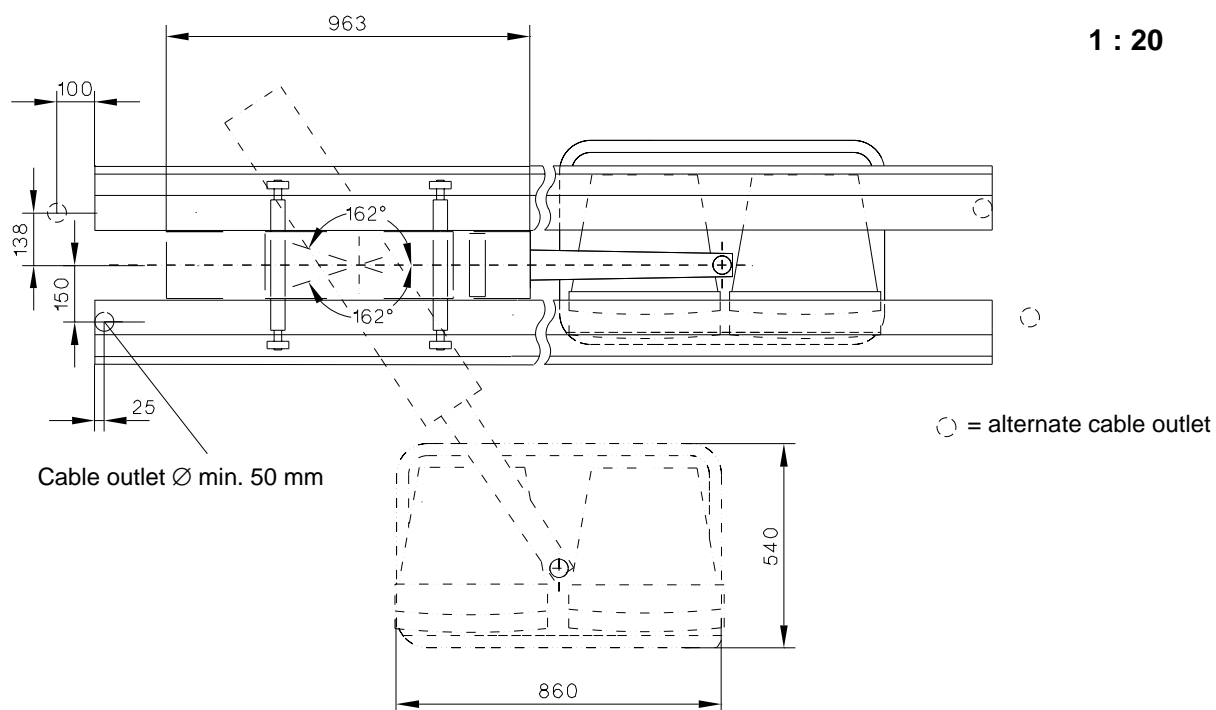
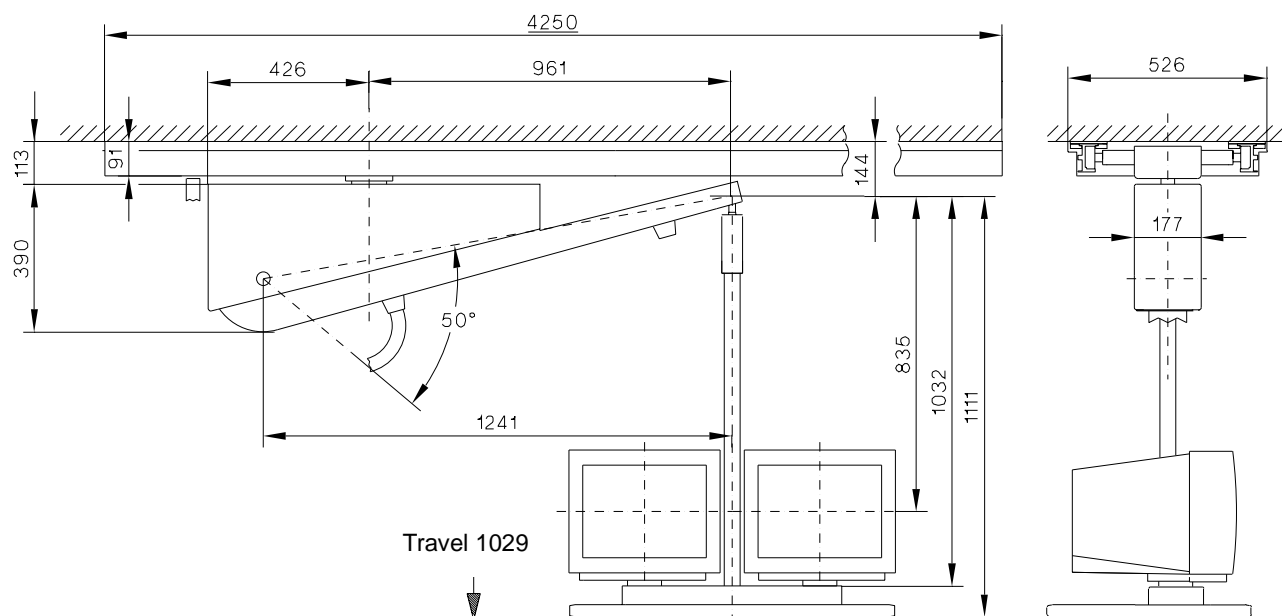
Table for operating and evaluation units



*1 Cable ducts in the left and right table base for running cable to the tabletop

*2 Drill through from below, if required

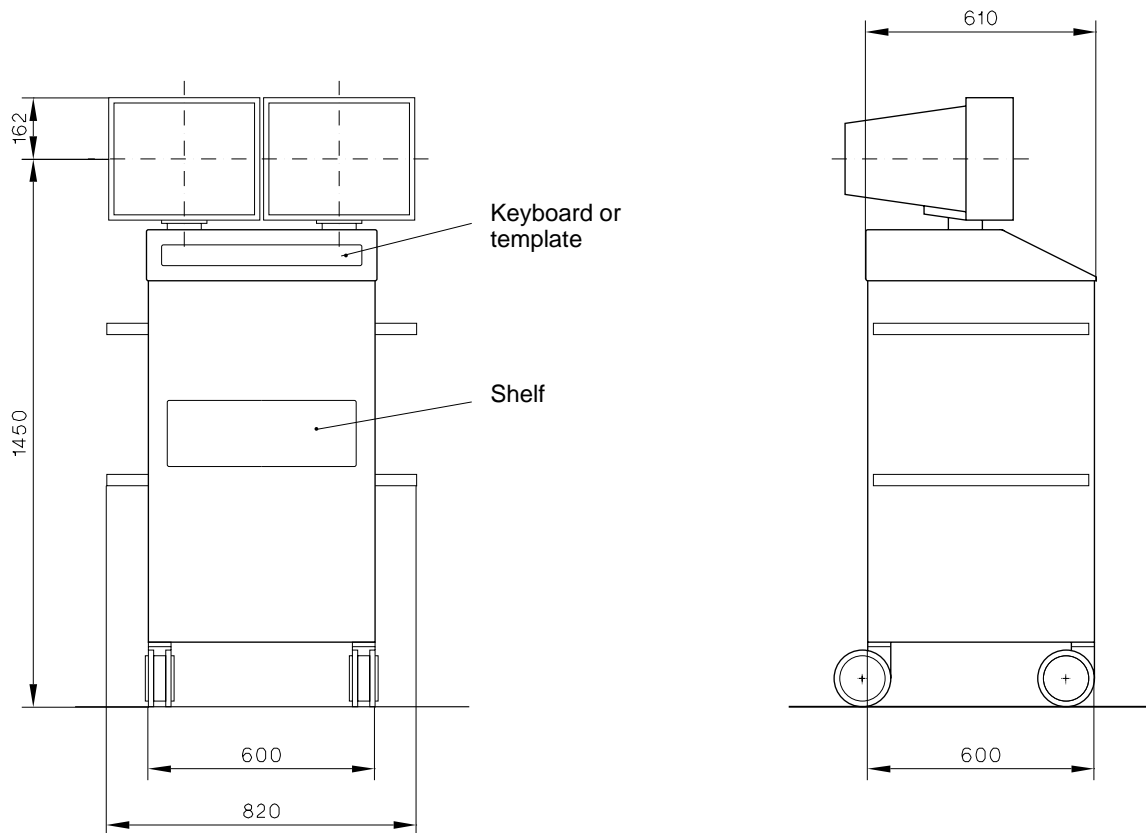
Dimensions: MTS-I 2



Weight: incl. longitudinal rails, ceiling carriage and monitors approx. 225 kg

Heat dissipation: approx. 180 W

Dimensions: Monitor cart



1 : 20

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Planning instructions, Unit

CAUTION

The unit cabinets should be installed from right to left:

The system cabling is laid out in this order:

UROSKOP D1

Generator - system cabinet

UROSKOP D2

Generator - system cabinet - I.I. TV cabinet

UROSKOP D3

Generator - system cabinet - I.I. TV cabinet - Fluorospot cabinet

- For line voltage without a neutral conductor, a system transformer must be provided.
- The cable connection from the system outlet to the system cabinet is **7 m** long.
- Safety and service distances from the cabinets should be maintained (refer also to R97-021.03...).
- Non-system loads must be connected to a separate line voltage.

NOTICE

For future remote service via service PC - modem, a TAE telephone jack should be provided near the UROSKOP system cabinet.

Planning instructions, Fluorospot H

- All line voltage cables must be shielded or separated from signal cables. Shielded line voltage cables are highly recommended. Ordering: Refer to PG RA0-000.13...
- Route protective conductors parallel to line voltage cables.
- In the cabinet, the shields of the shielded line voltage cables must be connected to the PE (GND) via the shortest possible path.

CAUTION

Prior to system installation, separate non-system line voltage cables from system line voltage cables (by a distance of as close to 100 cm as possible), or shield them with metal.

These protective measures are for Fluorospot H and supplementary systems. They are not intended for operation in areas where explosions are a possibility.

The installation kit for room preparation should be ordered in advance.

- ## Contents

4 Liebig anchors B 20/75

4 Liebig anchors B 20/125

1 water connection kit Item number: 16 12 972 G5354

Installation information

- For installation of the system with a mounting plate:
Item number: 16 76 894 G5353

Contents

1 mounting plate

Item number: 16 76 902 G5353

4 Liebig anchors B 20/75

4 Liebig anchors B 20/125

1 water connection kit Item number: 16 12 972 G5354

various hardware

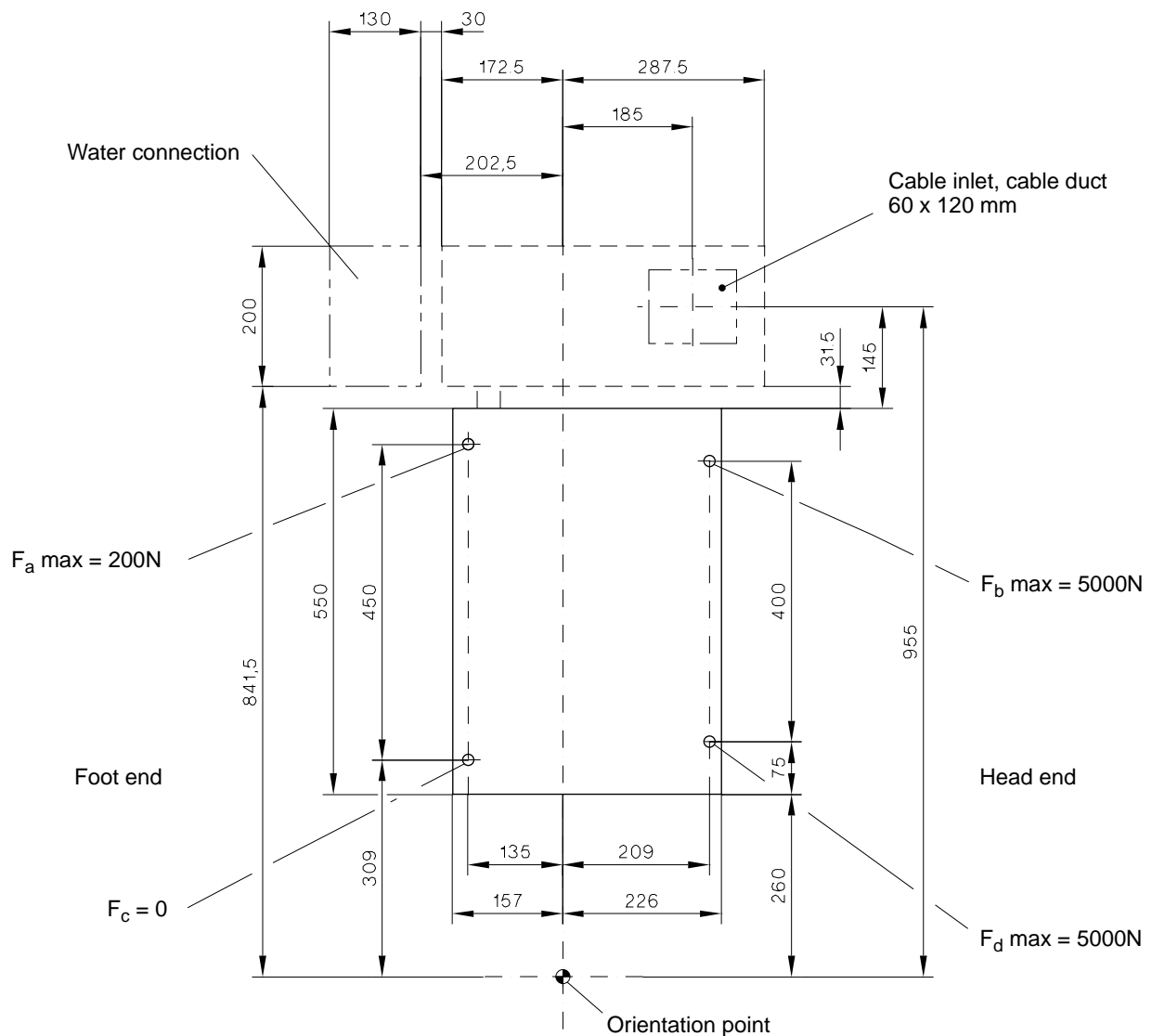
Installation information

Only the included bolts should be used.

The basic system and the monitor cart system must be installed with insulation.
(The corresponding insulation kits are included with the basic system and the MTS-I).

Tension

Max. tension when unit is tilted in the most unfavorable unit positions $F_a \dots F_d$ (incl. 135 kg patient)



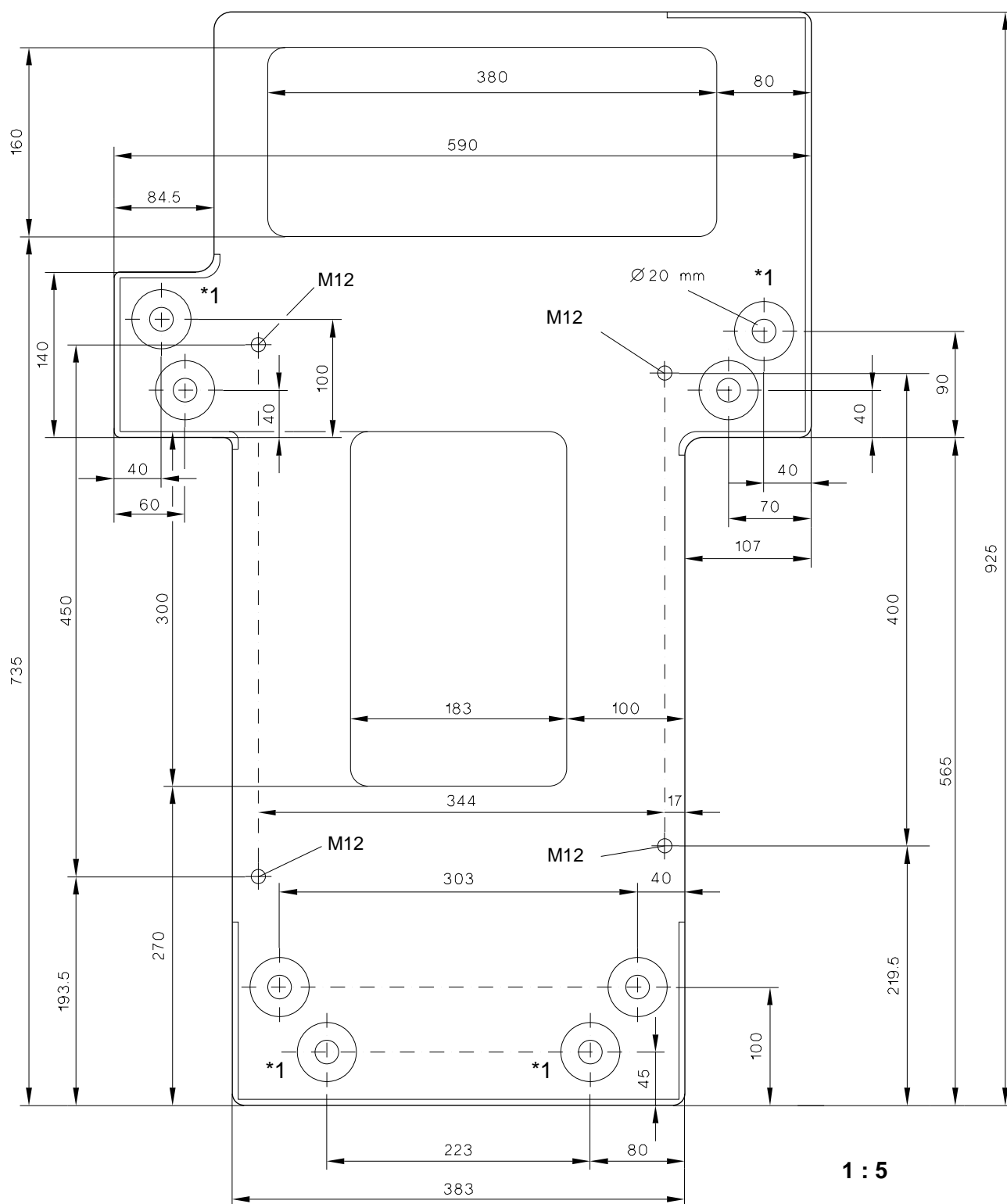
1 : 10

Unit without patient $\approx 700 \text{ kg}$

Unit with patient $\approx 835 \text{ kg}$

Mounting plate

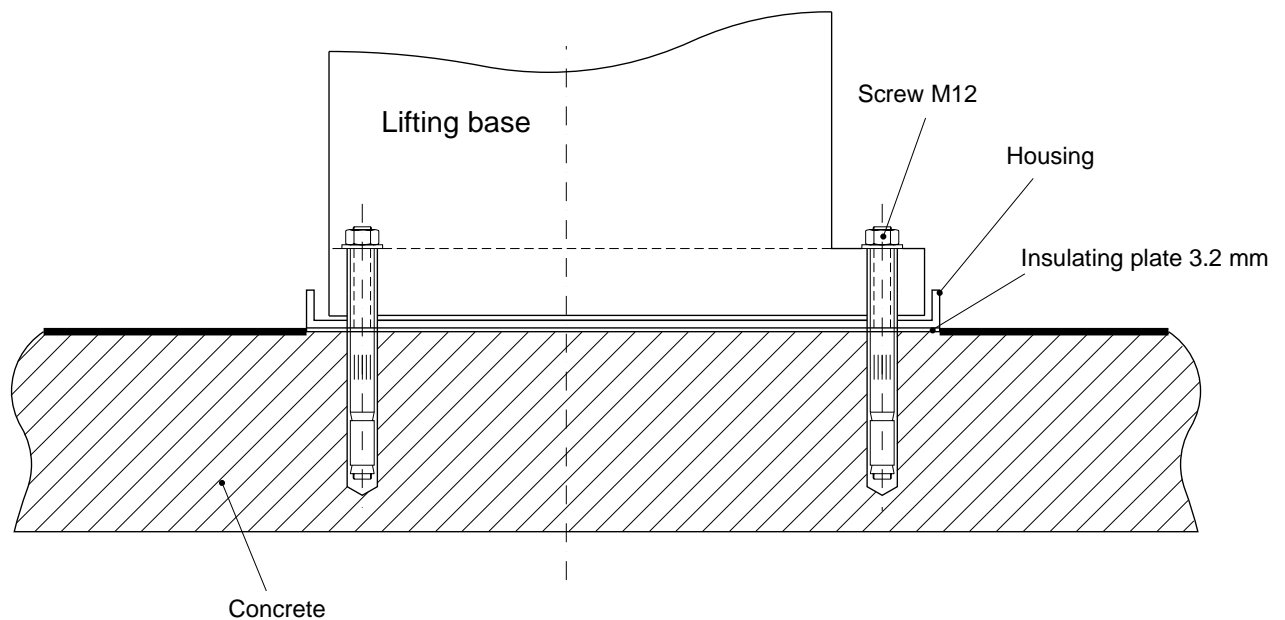
Alternate position



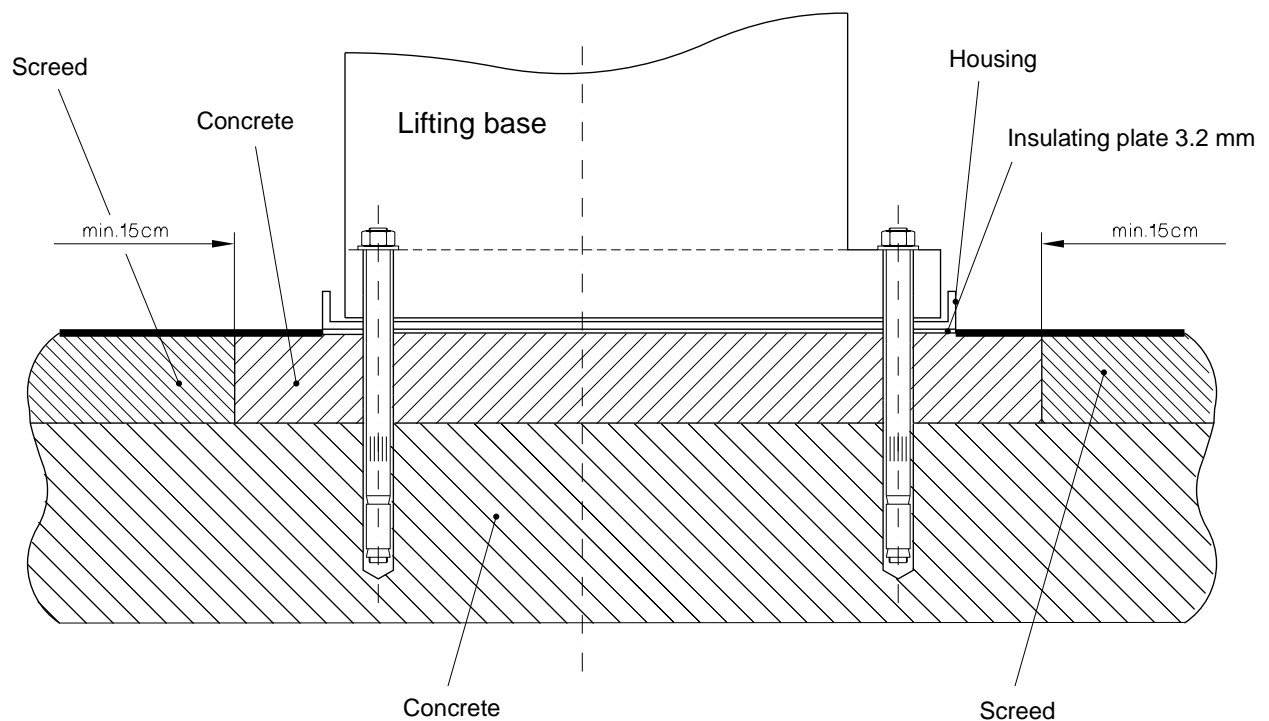
*1 Alternate holes

Floor mounting

Bolting the system to concrete floor



Direct installation on screed

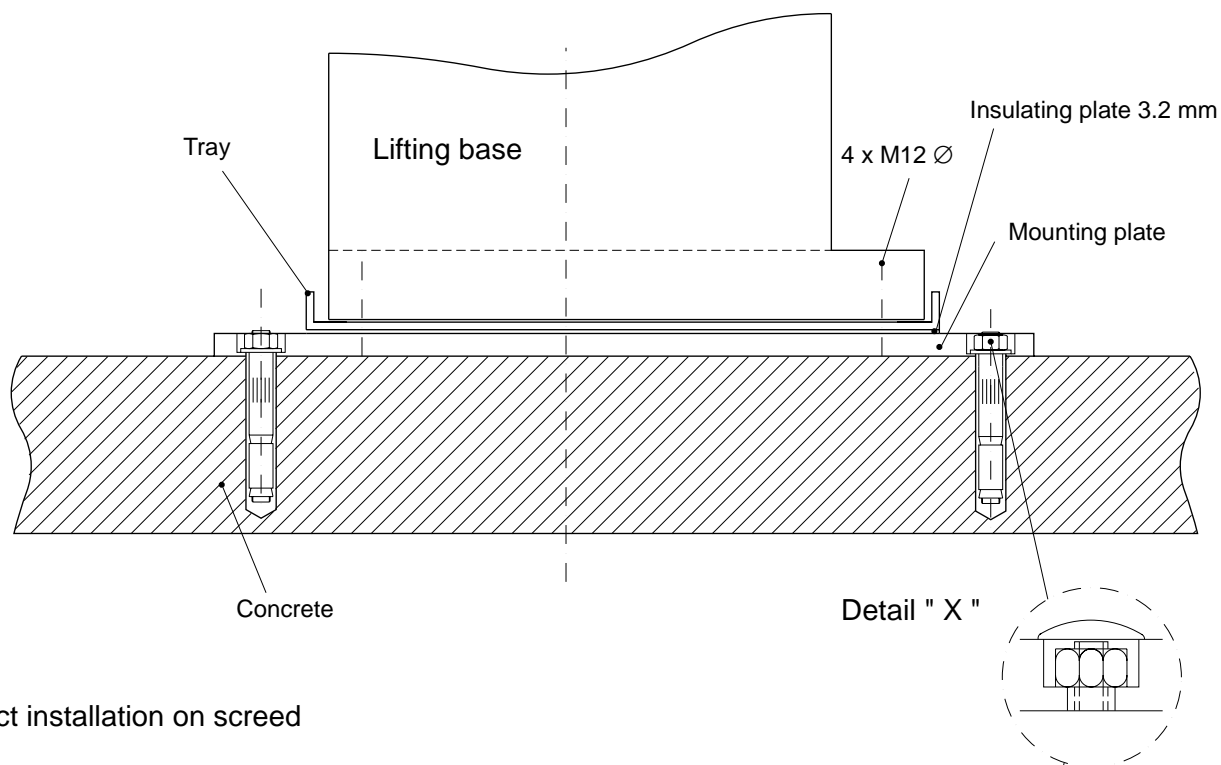


NOTICE

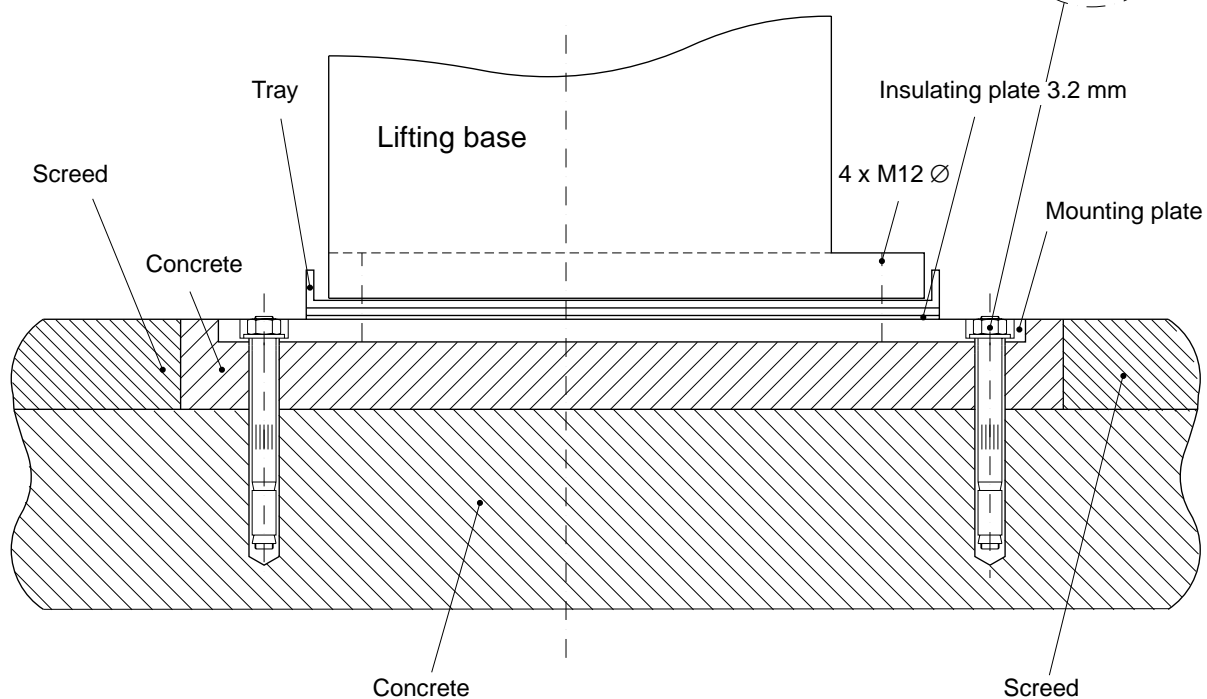
The lifting base and the installation plate must be leveled with a precision spirit level and a straight edge. Deviations over the longest section 1 mm/m. When using Liebig anchor bolts, follow the instructions provided by Liebig.

Installation of the basic unit

Bolted to concrete floor



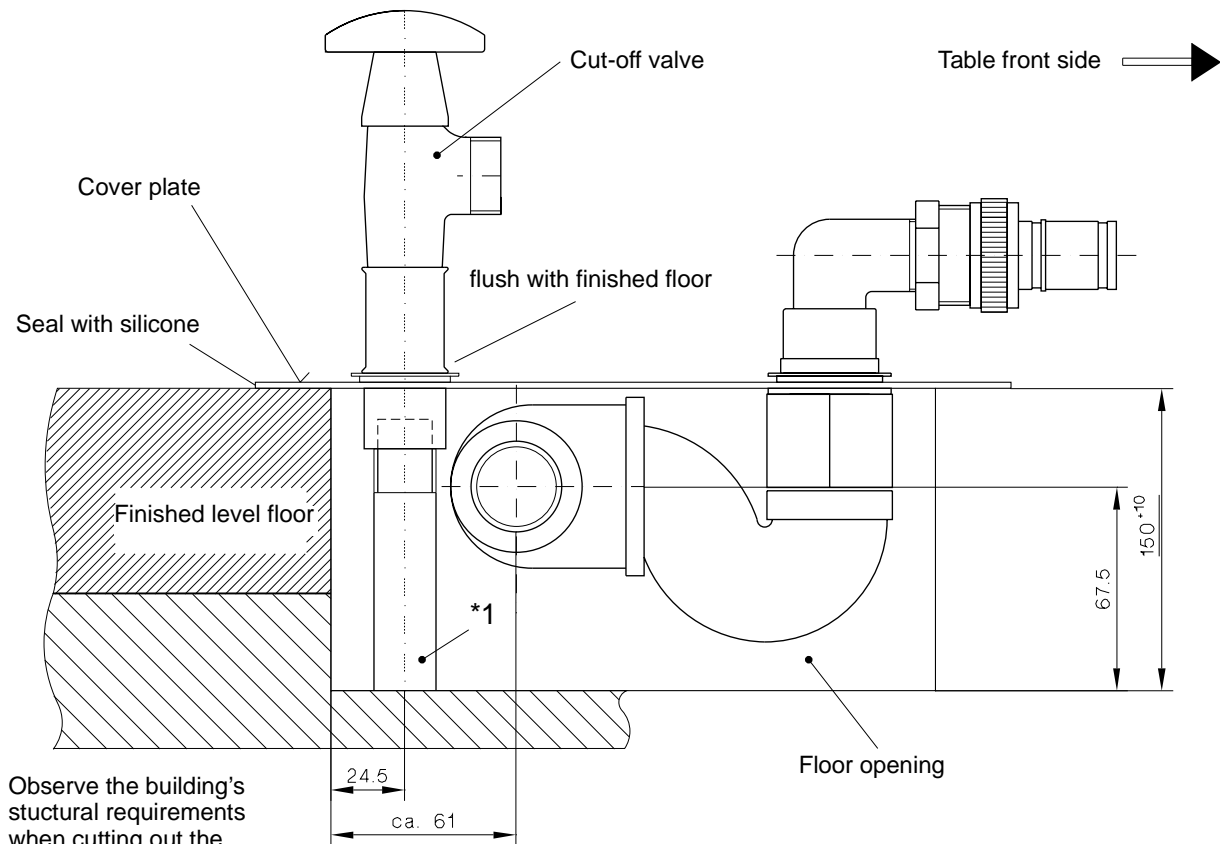
Direct installation on screed



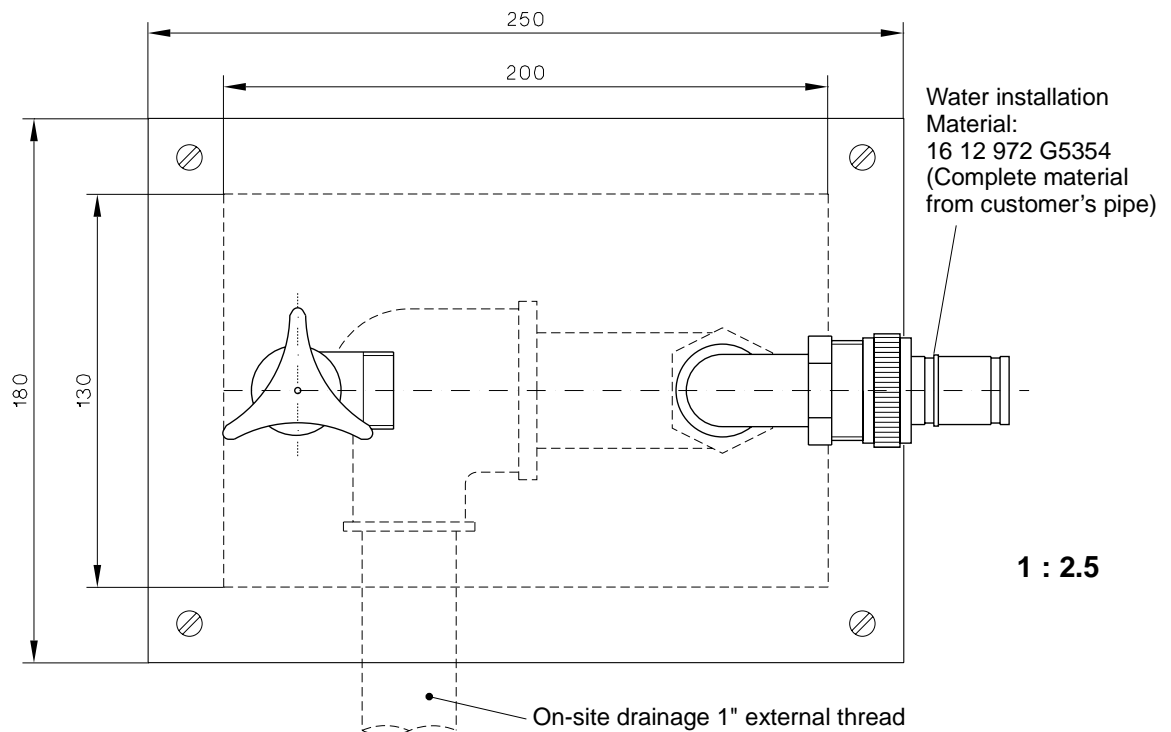
NOTICE

The lifting base is attached to the mounting plate using 4 X M12 screws.

Water installation



*1 On-site water supply 1/2" external thread (flush with upper edge)

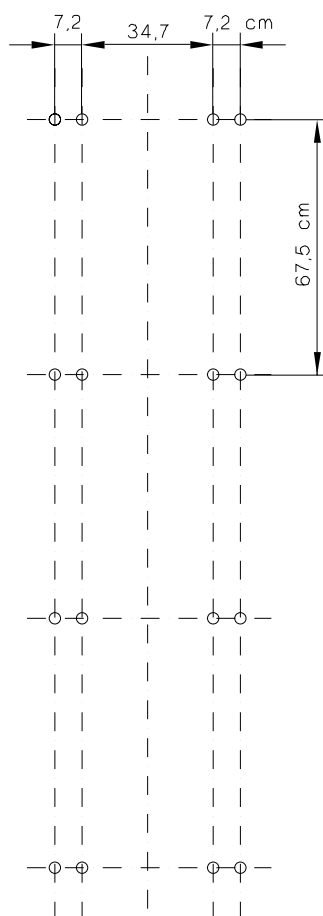


CAUTION

Ensure that the drinking water remains free of foreign matter. Note any legal requirements and any local regulations for drainage.

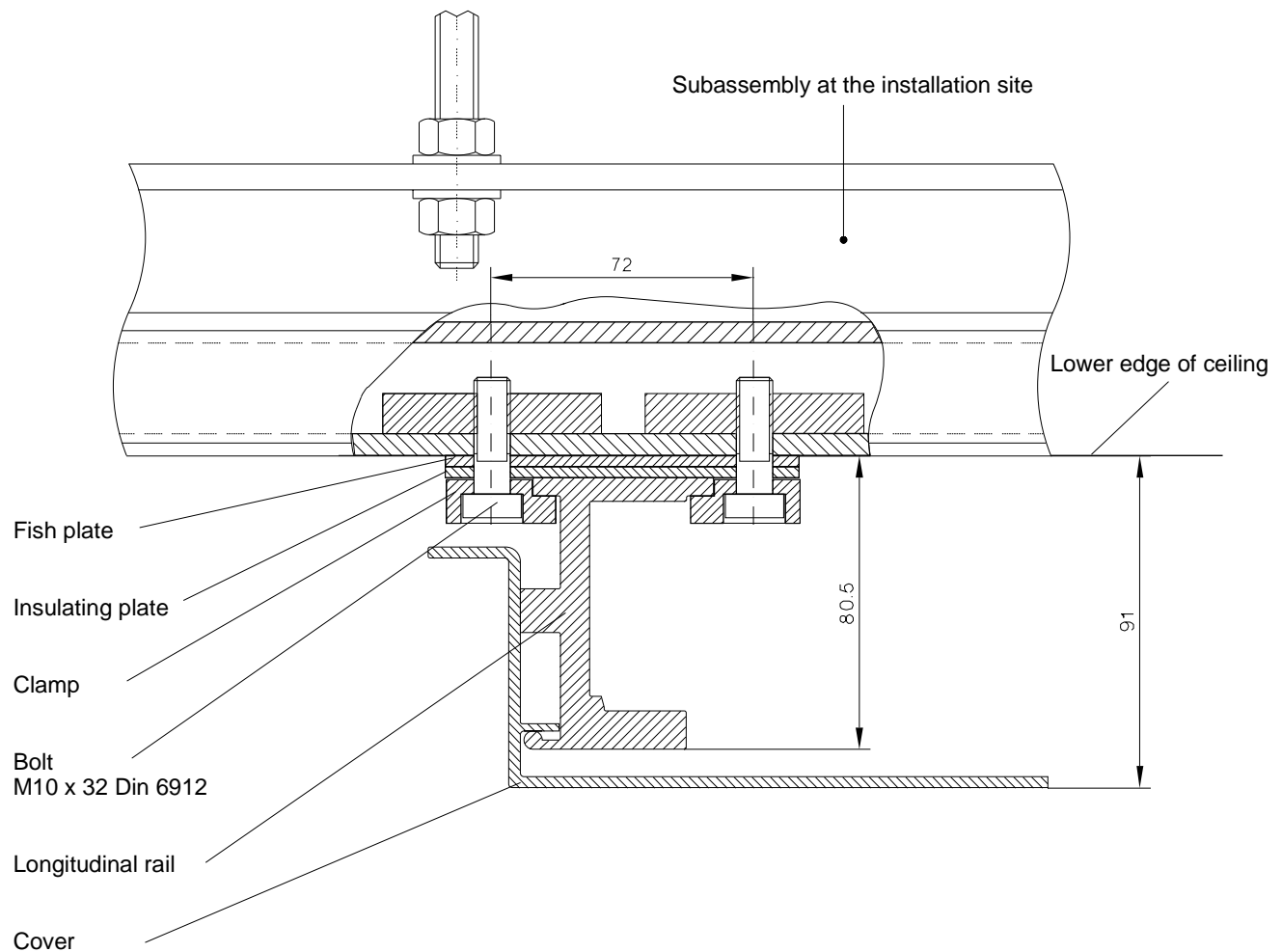
Installation notes

- Requirements:** Subassembly at the installation site: Wieland, -Schwerter, -Unistrut or comparable supporting sections
- Installation device, Part No. 87 63 872 G2122 (as 3 D III support)
- General:** The mounting points (each rail) must be spaced 675 mm apart (see drawing), 7 mounting points
- Mounting bolts (M10 x 32) and clamps for 7 mounting points (each rail) are included.
- A convenient eye level of mean height 1500 - 1600 mm is recommended.
- The MTS-I is electrically wired in the factory. All wires end at a contact point or terminal



Ceiling installation

Longitudinal rail section for MTS-I



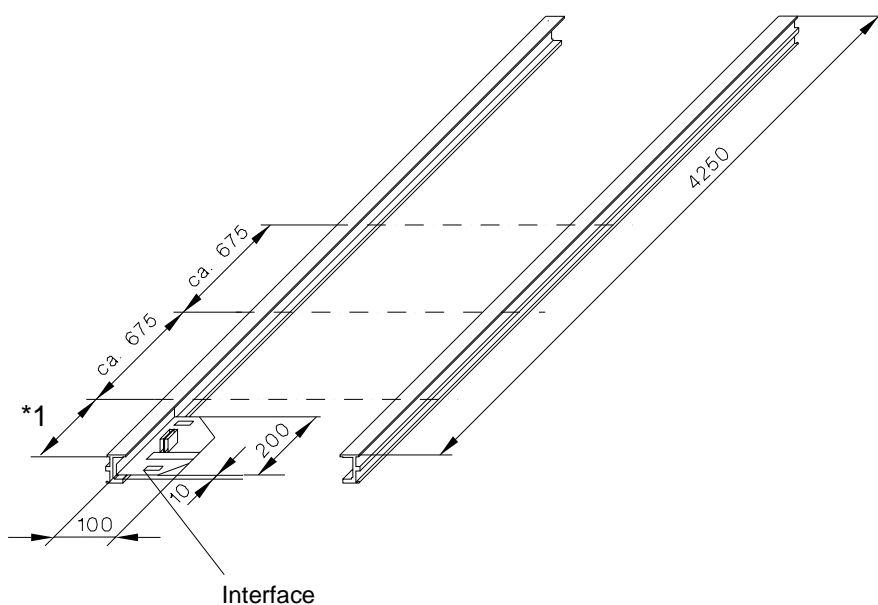
Tension: The maximum static tension per bolt is 1010 N.

Cable outlet

Cable outlet MTS - I

There are two options for the cable outlet:

1. Anywhere outside the ceiling rails. For this purpose the faceplate is provided with a hole through which the cables can be run to the interface.
2. Inside the ceiling rails.
In this case, the hole (50 mm diameter) should be 150 mm outside the center between both ceiling rails, on the opposite side of the cable interface (25 mm distance from edge).

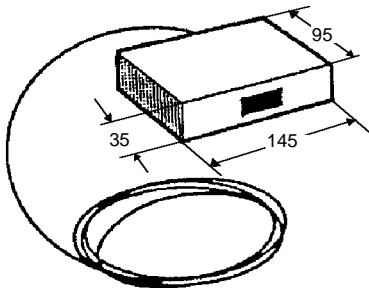


*1 Maximum rail projection 230 mm

IR - remote control

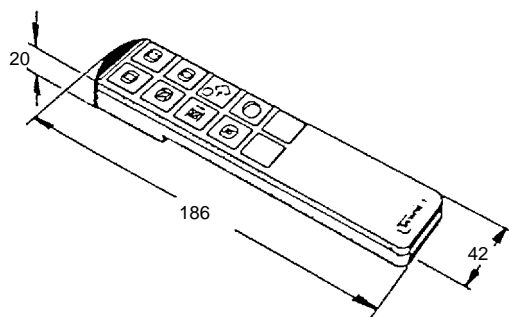
Fluorospot H

IR - receiver and preamplifier

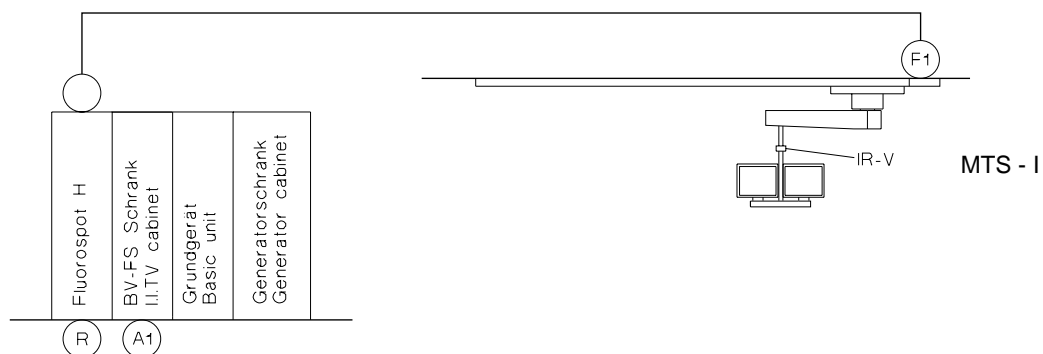


Housing: IP 65, Color: light grey
 Supply voltage: 12 V DC
 Current consumption: 10 mA
 Sensitivity with all IR hand-held transmitters: 50 m when the transmitter is aligned to $\pm 10^\circ$ ambient light ≤ 1000 lux
 Range reduction in sunlight: max. 50 %
 on-site mounting, using 2 screws M3

IR - hand-held transmitter

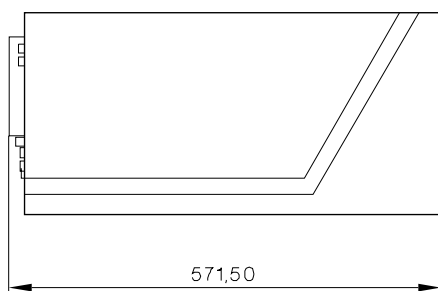
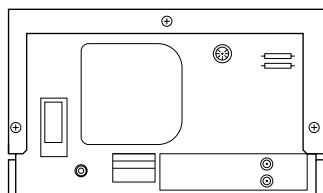
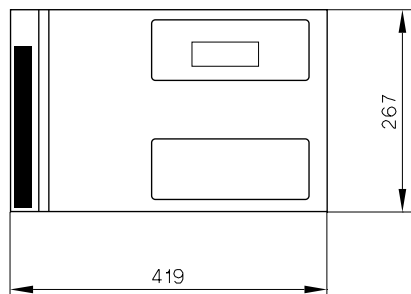


Housing: 42 x 186 x 19 mm
 approx. 50 m with direct emission of receiver $\pm 5^\circ$ and ambient light ≤ 1000 lux
 Range:
 Recharging socket for 12 V battery, can be charged with 18 V charger

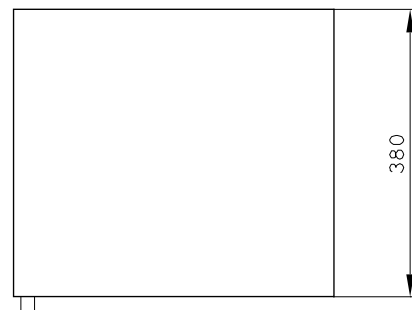
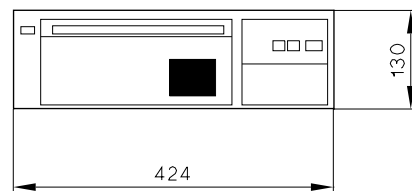


Multispot 2000, Videoprinter

Multispot 2000

**Option**

Videoprinter



Weight: 9.1 kg

Power consumption: max. 190 W

Line voltage supply: 200 - 240 V ~

1 : 10

Weight: 23.2 kg

Power consumption: approx. 100 VA

Line voltage supply: 100, 120, 220 - 240 V ~

On-site electrical installation

Network line impedance for generator (Values in ohms at UN - 10%)

POLYDOROS SX 80

UN (V) P (kW)	50 kW	80 kW
400	0.18	0.12
440	0.20	0.16
480	0.24	0.20

POLYDOROS LX 50

UN (V) P (kW)	30 kW	50 kW
400	0.20	0.15
440	0.27	0.20
480	0.32	0.24

Operation at higher line voltage is possible with power reduction.

Values in ohms at UN - 10 %. At reduced power, connect corresponding tube assembly.

AWG for main power line impedance

- calculate
- Note line impedance. Measure line impedance with line impedance meter.

Do not connect the following equipment to the main power line:

- Electrical machinery
- Air conditioning units
- Elevators
- general non - Siemens equipment

Line-matching transformer required

- at 480 V / 60 Hz, part. No.: 97 51 652 X1269 installed in power cabinet PL LX
- PL LX see SIR PM
- for unequal 380, 415, 440, 480 V - on-site

Emergency cut - off switch

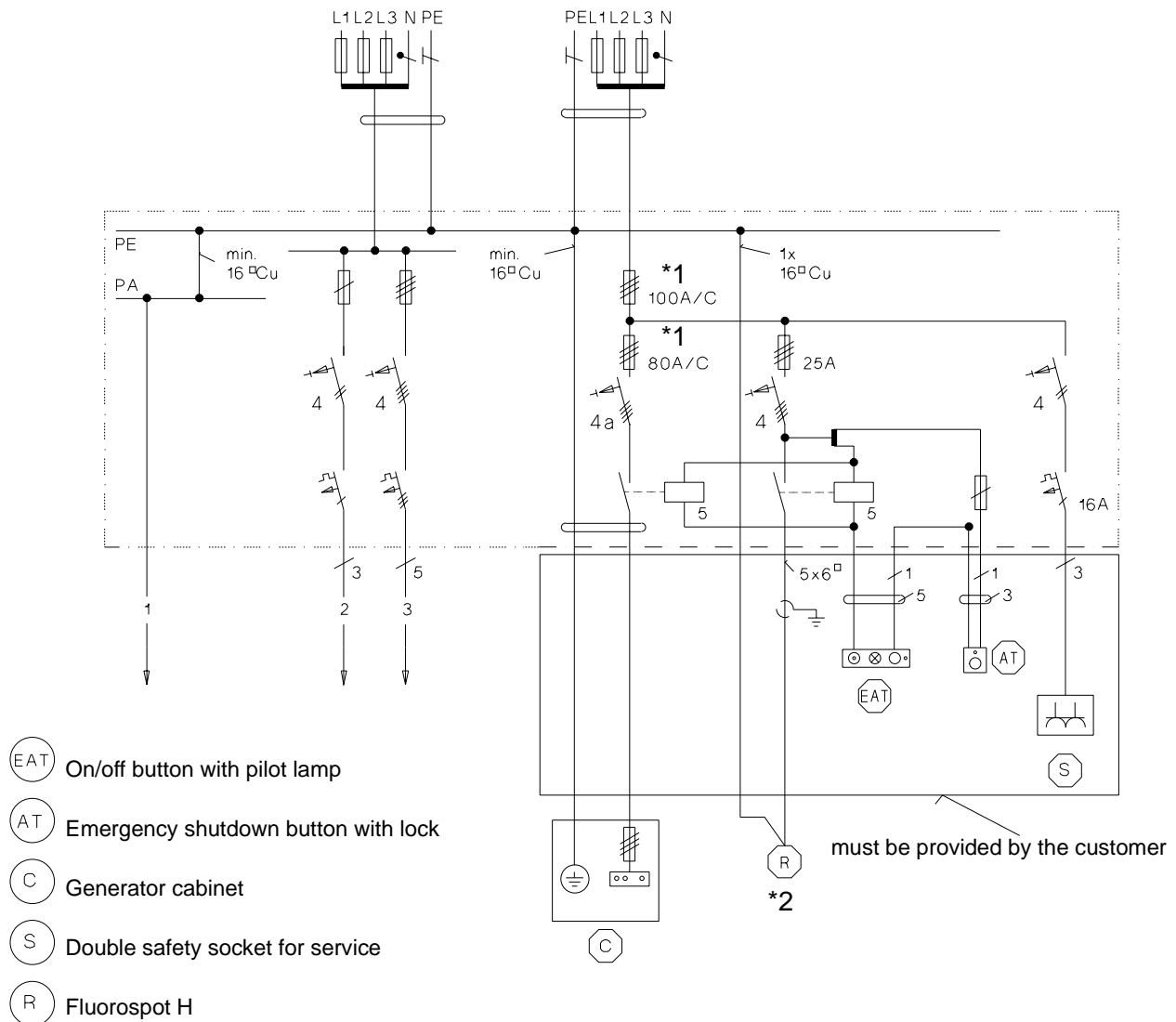
- install according to project planning proposals
- 1.8 m above floor level
- in all rooms with motor - driven equipment

On - Off switch console

- with pilot lamp
- can be locked / near control console
- 1.8 m above floor level

On-site electrical installation

Proposal for on-site power distribution acc. to DIN VDE 0107 or applicable country-specific regulations



1 To conductive parts belonging to other systems

2 Loads, permanently installed and movable

3 Loads, permanently installed and movable e. g. film processor

4 Ground fault detector $I_{\Delta N}$ 30 mA for alternating and pulsating direct currents

4a Ground fault detector 63 A/I Δ_N 30 mA, $U_N = 400/415$ V ~

for AC and pulsating DC fault currents (we recommend: Siemens Ground fault detector 5SZ3 466 0KG00, sensitive to all currents, or ABB No. F 804 - 63 /0.03; order directly from ABB Stotz - Kontakt Heidelberg, phone 06221 701-00). At different power line voltages, get an appropriate ground fault detector on site.

5 System circuit breaker

*1 If the POLYDOROS LX generator is used, correct the fuse values indicated for POLYDOROS SX correspondingly.

*2 For UROSKOP D3 systems equipped with Fluorospot, the Fluorospot's line connection is direct to the power distributor. If no Fluorospot is present, there is no second line connection.

Information for cabling

Minimum cable duct depth 60 mm.
Provide deeper ducts for any necessary intersections.

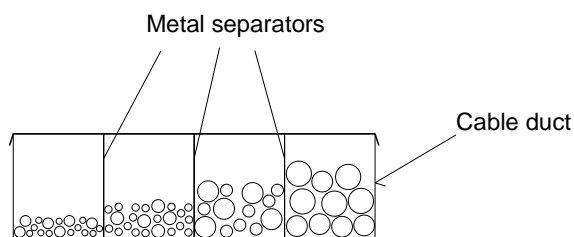
Keep high voltage cables and line voltage cables separate from control cables and video lines.
(If necessary, provide shielding).

The cable list is divided into 4 categories based on safety-technical and functional aspects.

Category 1 (above 300 V)	Category 2 (max. 300 V)	Category 3	Category 4
High voltage cable	Power lines	EK 14	Signal cable
Rotating anode cable	EK 20	EK 48	Video lines
Protective conductor	EK 34		Fiber optic cable (LWL)
Water hose			

Proposal for cabling

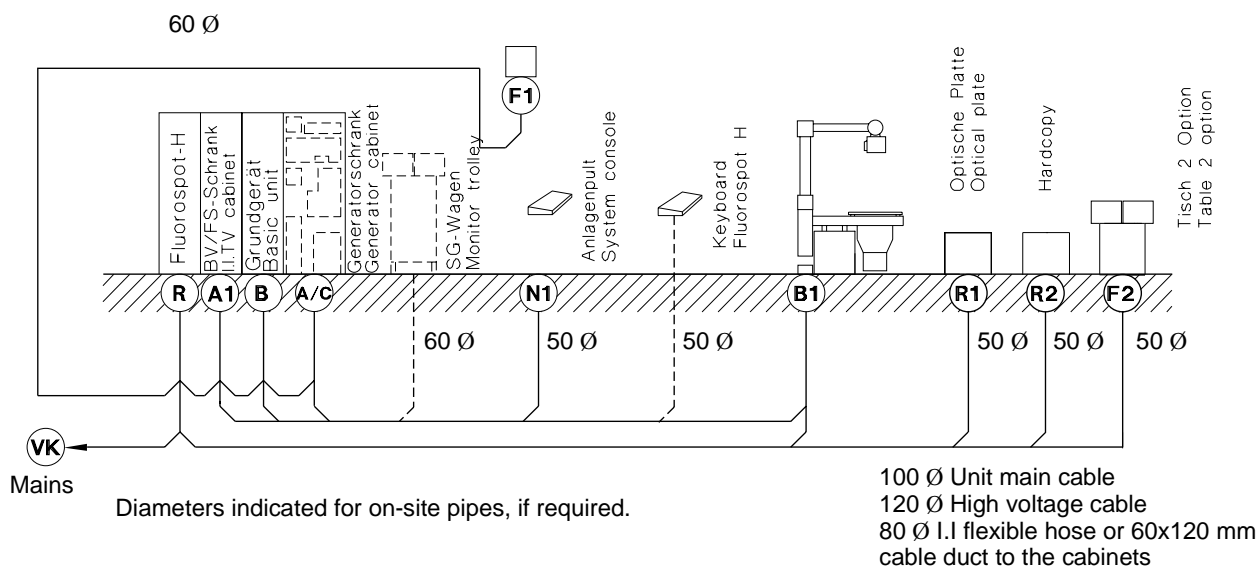
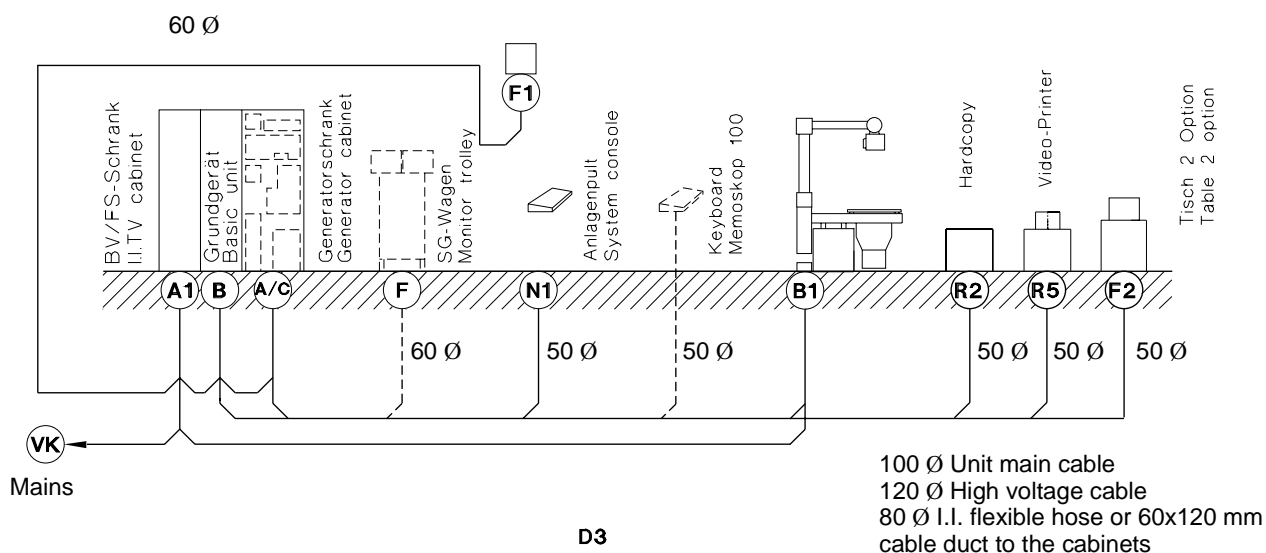
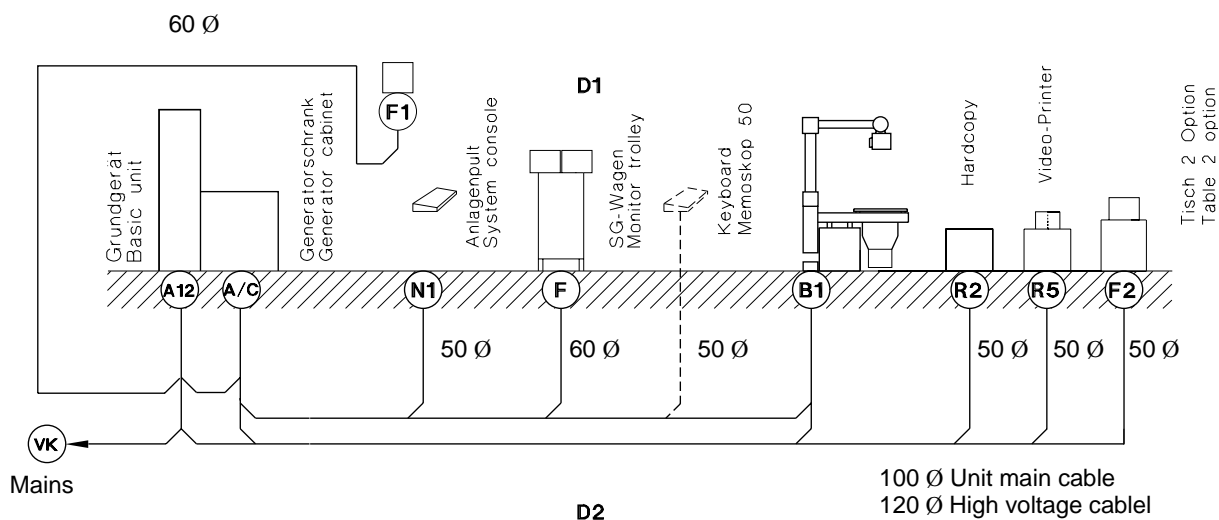
- Route in separate conduits or closed cable ducts
 - The minimum AWG comes from the cable list, in the "minimum opening" column
 - The cable with the largest connector must be laid first
- Route in open cable ducts with cables divided by metal separators or similar



- Calculation of the minimum AWG
 - Σ the available cable AWG's according to the column "cable ϕ " in the cable list
 - specified fill factors should be observed

– Formula
$$\frac{(\Sigma \text{ cable } \phi)^2}{0.8} = \text{required cable duct}$$

Installation schematic



Electrical data ♦

	Power supply	Power consumption		Internal fuse
		Fluoroscopy	Radiography	
UROSKOP D1	3/N/PE ~ 400,440,480 V ± 10 % 50/60 Hz ± 1 Hz	—		35 A slow/blow
UROSKOP D2/D3	3/N/PE ~ 400,440,480 V ± 10 % 50/60 Hz ± 1 Hz	—		63 A slow/blow
POLYDOROS LX	3/N/PE ~ 400 V ± 10 % *1 50/60 Hz ± 1 Hz	1.2 kVA	LX 30, 56 kVA LX 50, 94 kVA	35 A slow/blow
POLYDOROS SX	3/N/PE ~ 400 V ± 10 % *1 50/60 Hz ± 1 Hz	5.0 kVA	SX 50, 130 kVA SX 80, 170 kVA	63 A slow/blow
FLUOROSPOT H	1/N/PE ~ 208, 230, 254, 277 V ± 10 % 50/60 Hz ± 1 Hz	1.5 kVA		20 A slow/blow
Control cabinet	1/N/PE ~ 208, 230, 254, 277 V ± 10 % 50/60 Hz ± 1 Hz	1.5 kVA		25 A slow/blow
Monitor 44 cm	—	0.065 kVA		—

NOTICE

An additional transformer (Part No. 11 12 809 G5372) is required for the TV power distribution connection to 440/480 V with N or without N, and 400 V without N.

*1 A line - matching transformer (part no. 97 51 652 X1269) is required for 440/480 V. It is installed during the on-site generator work.

Environmental conditions ♦

	Operation	Transport	Storage
permissible ambient temperature	+ 10° ... + 35° C	- 20° ... + 37.5° C	- 20° ... + 37.5° C
permissible relative humidity	15 % ... 75 %	10 % ... 75 %	10 % ... 75 %
permissible air pressure	700 hPa ... 1060 hPa	700 hPa ... 1060 hPa	700 hPa ... 1060 hPa

Weight and heat dissipation

	Weight [kg]	Heat dissipation [W]
Basic unit	approx. 700.0	approx. 600.0
Control and evaluation console	105.0	—
Unit cabinet	approx. 100.0 D2,D3 / 120.0 D1	—
Generator cabinet PL SX Control console	approx. 235.0 approx. 2.5	approx. 600.0 approx. 20.0
Generator cabinet PL LX Control console	approx. 200.0 approx. 2.5	approx. 300.0 max. 20.0
HT - transformer	63.0	—
I.I. TV cabinet UROSOP D3 EMC - Version	200.0	—
I.I TV cabinet	100.0	—
FLUOROSPOT H	150.0	1500.0
Monitor 44 cm	14.5	65.0

Packing and transport routes

dimensions of basic system	L 1820 x W 1050 x H 1650 mm
largest crate	L 2200 x W 1190 x H 1836 mm
heaviest single part	approx. 850.0 kg with packing

Surface colors

Main color	White pebbled, Med surface no. 4146 similar to RAL gray - white 9002
Combination color	neutral grey pebbled, Med surface no. 4426 similar to RAL dust gray 7036

More information

POLYDOROS LX	refer to PG RX63-020.021.01...
POLYDOROS SX 50/80	refer to PG RX63-050.021.01...
FLUOROSPOT H	refer to PG RX41-020.021.01...
Monitor stations	refer to PG RX53-020.021.01...

Responsibility of the project manager towards the service contractor

The scope of the project manager's responsibilities requires that he

- is at the installation site when the system arrives
- supports the service contractor in solving problems
- clarifies the final location of the individual components
- checks to ensure that the installation is proceeding as specified
- clarifies problems together with the service contractor prior to the delivery of the system, e. g.
 - establishes the transport route of the truck
 - establishes the transport route within the building

Preparation for installation

Activities that have to be completed before the system's arrival or installation

- None of the construction workers may be still working in the room
- Walls have been finished and painted
- The floor (possibly pre-installation plate) must be present and finished in the system room
- Ceilings are in place
- Room lighting has been installed and is ready for use
- All electrical installation has been completed
- The rooms have been swept clean with a broom
- A room that can be locked is available as an intermediate storage area for the components

Protocols

- This protocol has to be completed and signed by the installation team (service contractor, SIEMENS service engineer or project manager).

NOTICE



The supervising SIEMENS project manager is responsible for the entire project management.

Furthermore, he is responsible for perfect and proper installation of the system.

Perform the further work according to the technical documentation (customer service instructions, installation instructions, etc.).

Chapter	Page	Change
0 - 7		The status of Rev. has been increased from 05 to 06
1	1-1	General notes updated
5	5-1	Technical data updated
6	6-2	Project Management updated
7	7-1	Changes to Previous Version updated

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